

The Official Newsletter of the Gwinnett Amateur Radio Society

July 2021 <http://www.gars.org/> Volume 30, Issue 7



The

# GARzette



July 2021 GARS Meeting: Wi-Fi for Hams by Kevin Scott K4GTR



## The Georgia QSO Party



## TechFest

GARS meeting Tuesday, July 13, 2021 at 7:00 pm

## President's Message

### From the President...

It was so good seeing folks I hadn't seen on so long at the June meeting, the Ice Cream Social! Our first in-person event in over a year, we were able to have good conversations and catch up with one another. We started off a little differently with an exhibit of a useful rubber retention device that will restrain/secure bundles of cables, wires, etc. Also, there were a number of useful ham radio items given away, ranging from books and magazines to tee shirts and numerous rf connectors. Then we got to the important item of business – the ice cream!

We were finally able to make a tribute to a long time GARS family member that went Silent Key last year - Mike Swiderski, K4HBI. There to receive a token of remembrance and appreciation from GARS and the ARRL, was Mike's widow, Susan Swiderski, AF4FO. Until we can QSO again Mike, Rest in Peace.

Several GARS members had the opportunity to help with an educational summer camp held by the local EAA. We assisted these young folks with an introduction to technology by helping with a Soldering Class and introduction to Amateur Radio. The group consisted of 'Young Eagle' members of the EAA at the Gwinnett County Airport (LZU).

These young folks did a fine job of soldering their Code Practice Oscillators, even though they had no prior experience. We 'seasoned', ah, 'experienced' hams, that helped out were rewarded with their smiles and senses of accomplishment as they 'tapped' out some morse code on their finished project.

### Field Day – Our Amateur Radio exercise of emergency preparedness.

We take on this challenge each year to prove that we can communicate within this country as well



as the world, and with many types of communications modes and many levels of technology. All of this work is accomplished by operating in numerous different environments and power sources. Yes, there is a certain level of friendly competition with one another, and improving our techniques aids in getting a good number of contacts and points!

All of this was done this year in-person. The air was filled with RF and 'war stories' of Field Days past. We had a good crowd of participants this year and great BBQ Saturday night. With good food, we certainly stayed fueled for setup and operating. Sadly, I think I 'over-fueled'.

So, another GARS Field Day is now on the books, and we wait for the tallying of the scores to learn our results. Whatever the scoring outcome, one thing was certainly indicated - we're ready to be in one another's company after such a long time away in various levels of isolation.

Last but not least, we can also look forward to our General meeting in July. We will meet, in-person, at the EAA hanger at Lawrenceville's Briscoe Air Field. We do intend to simulcast the meeting via our Zoom streaming platform for those who cannot attend. This meeting will be our first dual in-person / broadcast meeting. There may be some technical and procedural challenges, so please be patient as we resolve any issues that may arise. Stay tuned to [www.gars.org](http://www.gars.org).

73,

*Joe Biddle. AD4PZ*

**Club President**

## GARS Meetings & Workshops

### GARS Meetings and Workshops

GARS Meetings and Workshops will be held in-person at the EAA 690 Hangar. Meetings will also be accessible online via Zoom. See <http://www.gars.org> for more information

#### GARS Virtual Login and Zoom Etiquette

Zoom login info will be posted to <http://www.gars.org> prior to the meeting.

Meetings and Workshops are OPEN to all, feel free to share your invite with others.

- Workshops and Meetings will be **recorded**. By participating you consent to being **recorded**.
- Please change your display name to Your **FirstName Call Sign**, e.g. **Hiram W1AW**
- [How to change Your Display Name in Zoom](#)
- Please stay muted until ready to speak. Your space bar works like a PTT for un-muting
- To be fair to everyone, there will be a three minute limit for each person during Q & A
- You may ask questions in chat; **please stay on topic while using chat**.

#### GARS Meetings Schedule (second Tuesday @ 7:00 PM):

- July 13, 2021 – [Kevin Scott K4GTR](#) – Wi-Fi for Hams
- August 10, 2021 – [Ruth Willet KM4LAO](#) – Working Amateur Satellites, FM and Linear
- September 14, 2021 – [Bill Cherepy WB4WTN](#) – Favorite Ham Radio and Related Websites
- October 12, 2021 – Show and Tell

#### Workshop Schedule (third Tuesday @ 7:00 PM):

- July 20, 2021 - [Dallas KD4HNX](#) - Power Pole Connectors
- August 17, 2021 - [Laurence \(Larry\) Whited AB4NX](#) - Soldering / Kit Building
- September 21, 2021 – [Steve Back WB2OGY](#) & [Ken Lyons KN4MDJ](#) – Scouting and JOTA
- October 19, 2021 - TBD (Your chance to volunteer and tell us about your ham radio project)

#### GARS Meeting – July 13, 2021

##### Wi-Fi for Hams

##### [Kevin Scott K4GTR](#)

This presentation will review Wi-Fi's past, current and future specification versions. Technical topics will be presented in a practical manner with amateur radio operators in mind.

Topics to include:

- Compatibility/Interoperability
- IEEE specs
- Wi-Fi marketing names
- Higher speed, increased range and interference-reduction techniques
- Current Band/Channels and future bands/channels
- Cool phone apps for looking at active RF channels and network troubleshooting
- Reference Wi-Fi Websites
- Wi-Fi Extenders
- Hot Spots
- and more

#### GARS Workshop – July 20, 2021

##### Anderson Power Pole Connectors

##### [Dallas KD4HNX](#)



Dallas will go over the basics of making proper Powerpole connectors for your Amateur Radio gear.

We will discuss and answer the Who, What, When, Where, How, and Why we use PowerPole connectors over many other choices.

Bring your Power Pole connectors, cables, and tools to our first in person Workshop at the EAA 690 hangar in a long time.

**ARES Members;** bring your ARES Task Book, building Powerpole cables is an encouraged task we will try to have an ARES member that can sign this off at the meeting.

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## GARS Communication

<b>2 Meter Repeaters</b> 147.075(+) MHz Tone 82.5 147.255(+) MHz Tone 107.2  <b>1.25 Meter Repeater</b> 224.580(-) MHz Tone 100.0, 1.6 MHz Offset  <b>70 Cm Repeaters</b> 444.525(+) MHz Tone 82.5 442.100(+) MHz Tone 100 442.325(+) MHz Tone 100	<b>6 Meter Repeater</b> 53.110 (-1 MHz) No Tone (Offline for Maintenance)  <b>Other Resources:</b> <b>APRS</b> 144.390 -- 1200 Baud W4GR  <b>D-STAR</b> WD4STR 145.060 + (1.4 MHz) 440.550 + (5 MHz)
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GARzette.**

Snail Mail Address:

GARS  
P.O. Box 492531  
Lawrenceville, GA 30049

## Notable Web Links

Ham Radio Glossary: <https://noji.com/hamradio/glossary.php> a very comprehensive listing provided by Noji Ratzlaff KNØJL. On his site there is also a lot of information about getting started in ham radio.

## Need Help – Let GARS Elmers answer your questions

Send an email to [elmers@gars.org](mailto:elmers@gars.org) with the subject listing the area (like Antennas, Repeaters, Digital, DMR etc.) of your query to get to GARS Elmer volunteers.

The *GARzette* is the official monthly newsletter of the Gwinnett Amateur Radio Society, serving its members and other persons interested in the advancement of the Amateur Radio art.

Original articles, art, and photos are invited and encouraged. Previously copyrighted submissions cannot be accepted for reprinting unless permission from the appropriate publisher is provided in writing along with the information being submitted. If reprints are from publications allowing their unrestricted use, please include a copy of the printed permission contained in the publication.

If possible, bring your articles to the monthly meeting in Microsoft Word or rich text (.rtf) or text or HTML format or by e-mail to [editor@gars.org](mailto:editor@gars.org). Artwork can be accepted in most any graphics format and can be submitted via e-mail to the same address. Alternate means of submittal can be arranged when necessary.

In keeping with the Amateur Radio spirit, permission is hereby granted for the reproduction of The *GARzette* articles by other Amateur Radio club newsletters provided that proper credit is given to the individual author and *The GARzette*.

*The GARzette* is published each month with the assistance of Karen KI4HPP and Kyle W4KDA who print copies for distribution at meetings, etc. and Dave Bruse, W4DTR, who distributes the newsletter electronically.

Deadline for submissions is the 28th of each month for inclusion in the following month's issue.

For additional information view our Website at: <http://www.gars.org>

Newsletter Email: [editor@gars.org](mailto:editor@gars.org) Editor: Bob Hoffman, K4CQO Assistant Editor: Bill Eggers, WB2RIS



## GARS HELP WANTED

Speakers Needed for GARS Workshop Presentations, 3<sup>rd</sup> Tuesday of the month – Email [workshop@gars.org](mailto:workshop@gars.org) to volunteer. [PS— Articles to publish in the *GARzette*, either written by GARS members or published elsewhere, are always welcome. —Ed.]



## GARS Happenings

### 20 Years ago in the July 2001 GARzette:

- The 2001 field day had 215 people – 125 visitors and 90 GARS members
- Field Day 2001 was highlighted
- Gwinnett County Commission proclaimed June 18-25<sup>th</sup> as Amateur Radio Appreciation Week
- On The Air article featured Lou Manglass, NY4F

You can always browse the GARzette archive at <http://www.gars.org/newsletters>  
73, Bob, K4CQO, GARzette Editor



### Health and Wellbeing – Sandy Jackson, KJ4DRO

Look for this resource on [gars.org](http://gars.org) and use it as a means to convey information about a GARS family member or Silent Key notification.

## Net Managers Corner

### Monday Night 2 Meter “Want, Swap, Sell, and Information Net”

### **GARS NEEDS MEMBERS TO SERVE AS NET CONTROL STATIONS!**

GARS is a great Amateur Radio service club with the membership and awards to prove it. Our club is very busy and active, and we use the Monday night net to get timely information out to our members. Weekly participation is needed to make our net function well. There is only a small group of very dedicated people who make the net happen each week, and we need more members to volunteer to serve as Net Control Stations (NCS) on a rotating basis.

Out of almost 300 members, there are only seven operators who serve as the NCS for the GARS net every Monday night. In no particular order, they are:

Don – KW4AL  
Glen – W3WWT

Ray – N4GYN  
Russell – AB4QQ

Bill – WG9NUW  
Chuck – KK4TKJ

David – KA4KKF  
Charlie – WS4TOT

As GARS Net Manager (Chuck KK4TKJ), I would like to have more volunteers to fill NCS positions. I do plan and post the schedule months in advance. Any conditions will be accommodated that you as a rotating NCS need to place on the scheduling of your duties. If your plans change, I can make adjustments for the schedule to work, and I will make those changes happen as soon as I am notified of a problem. As Net Manager, I also send out reminders each week to let the NCS scheduled know he or she is NCS for the next Monday night net. In short, serving as a rotating NCS is a small duty but a great contribution to the club. The “Want, Swap, Sell Information Net” begins promptly at 19:30 every Monday night and runs about 30 minutes. As a scheduled NCS, you will request the assistance of a volunteer alternate NCS each time you have Net Control. Your simple duties will be to tune in to the GARS repeater, read the script, take a few notes and forward the information to me for record keeping.

Please lend a hand and contact me at [KK4TKJ@arrl.net](mailto:KK4TKJ@arrl.net). Sign up to help support the effort that makes GARS the great club that it is.

73 and see you on the Nets!

## GARS General HamCram

**July 24th and 25th 2021** at the EAA Hangar Saturday will be 08:00 to 16:00 Sunday will start at 08:00 till finished then the test session. Lunch will be 30 minutes, ordered in. The \$25.00 will cover lunches and testing. Please visit <http://gars.org> to registration. Preregistration is required. Seating is limited

## GARS Field Day 2021

June 26th and 27th 2021 at Harbins Park. Saturday morning saw about 20 people show up and help set up the site.







The

The network cables and the remote receive antenna cables were run to all operating positions. Laptops were setup with the software and tested for connections to the database. The guys enjoyed fruit and vegetable trays with croissants and coffee while working. About 1300, all stations were testing all their operation. We operated 1 cw and 3 digital stations and 4 SSB station for an 8A class. Saturday night dinner was BBQ from the Bait Shop. Of course, we had ice creme about midnight. About 0100 most everyone went to get a nap for a couple of hours. Sunday morning breakfast was leftovers. People started to show up to operate again. We finished off the Morning and started to break down stations that seem to hear only dupes. We were broken down and cleaned up and out by 1500.

It was a great field Day. The number of people were half of pre-covid. We made the following contacts.

## Total Contacts by Band and Mode:

Band	CW	Phone	Dig	Total	%
-----	--	-----	---	-----	---
160	0	0	27	27	1
80	0	118	133	251	13
40	132	495	296	923	48
20	0	120	258	378	19
15	0	190	54	244	13
10	0	9	105	114	6
6	0	0	3	3	0
-----	--	-----	---	-----	---
Total	132	932	876	1,940	100

Our Claimed Score = (QSO points x power mult) = 5,896 + 1250 Bonus pts.

2021 Preliminary Total Score: 7,146

QSOs power #people total score section

2020	Gwinnett ARS	Aggregate Scores				19,368	30 stations
2019	Gwinnett ARS	W4GR (+N7GRB)	1,935	2	105	7,968	GA
2018	Gwinnett ARS	W4GR (+KN4CG0)	2,195	2	104	9,404	GA
2017	GARS	W4GR (+KW4AL)	2350	2	97	9,436	GA
2016	Gwinnett ARS	W4GR (+WB4WTN)	2297	2	106	9,388	GA

Thank you to all the people that came out to have fun and meet new friends at Field Day 2021.

73,  
David  
KA4KKF

## GARS Young Eagle Soldering Camp



Thanks to Ralph (KJ4CNC), Earl (AF4FG), Joel (WA4HNL), Joe (AD4PZ) of GARS for putting on this educational session with the Youth Aviation Summer Camp. This was the seventh and biggest and best camp to date! The electronics and soldering session was a success largely due to GARS participation although it did not come off exactly as planned. Who would have figured that adding the soldering class for the first time that things would change and not because of what was planned.



These 10-12 young folks did a fine job of soldering their Code Practice Oscillators, even though they had no prior experience. Good instructors??



The original schedule touched on electronics, ham radio and GARS and then build the CPO board designed by Jim Stafford, W4QO. Due to the previous scheduled session on fabricating a metal aileron section taking a half day longer to complete we would have to divide the kids in our session into smaller groups allowing them to complete the task. This actually worked out better since teaching a new skill always takes longer.



The kids really enjoyed the building of the CPO boards and all but three out of the twelve worked without trouble shooting. The last three finally came online and could be heard sending "CW."





## 2021 GARS Scholarship Award

Each year GARS sponsors a \$1,000 scholarship managed by ARRL. It is mostly funded by member donations to the GARS Scholarship Fund and drink donations.

On behalf of the ARRL Foundation Officers and Board, I am pleased to announce the 2021 recipient of The Gwinnett Amateur Radio Society Scholarship in the amount of \$1000.

Brianna Greenberg, KK4VFP, Valdosta, GA has been selected for The Gwinnett Amateur Radio Society Scholarship from an outstanding group of applicants. Scholarship recipients were recently notified of their awards, and we have already had many replies conveying their excitement and appreciation.

May 26, 2021

Gwinnett Amateur Radio Society  
Norman Schklar, WA4ZXV  
480 North Peachtree St.  
Norcross, GA 30071

Dear Mr. Schklar,

I am writing to express my thanks for being chosen as The Gwinnett Amateur Radio Society Scholarship recipient. I am the first in my family to attend college, and I am deeply grateful for opportunities such as this scholarship that have enabled me to continue my education.

I grew up in Valdosta, GA and found an interest in technology at a young age. This expanded to include computers as well as radios, since my dad began learning about radios and taught me what he learned. We both got our Extra class licenses and have enjoyed sharing that interest. I have worked in computer support and networking for the past 7 years, and I just started a new job as a Computer Information Systems Instructor at South Georgia Technical College. I hope to complete my Master's degree in Information Technology from Middle Georgia State University in December of this year. This scholarship will be a great help in completing my degree, and I am excited to use the things I am learning in my program to help my own students.

Once again, I truly appreciate the generosity shown to me. I am committed to succeeding in my education and using my knowledge to inspire and assist others. Thank you for providing this scholarship and helping me to achieve my academic goals.

Sincerely,

*Brianna Greenberg*

Brianna Greenberg, KK4VFP



From ARRL

Letter sent to GARS from Brianna Greenberg

## Upcoming Stone Mountain Hamfest



# STONE MOUNTAIN HAMFEST

and ARRL



State Convention

After the cancellation of last year's HamFest because of the Corona Virus we are all anxious to be social again, and we are expecting a large turnout of like-minded individuals. We expect to follow CDC guidelines and they may change before November. The actual procedures to be followed will be announced shortly before the HamFest gets underway.

We are planning to have the 2021 edition of the Stone Mountain HamFest on November 6 & 7, 2021 at the Gwinnett County Fair Grounds in Lawrenceville, GA.

Our records indicate that you used the **Ticket Booth** page on the Stone Mountain HamFest web page to purchase tickets for the 2019 edition of the **Stone Mountain HamFest**.

The **Ticket Booth** for the **2021 Stone Mountain HamFest** will open on August 1, 2021. So, on or after that date head on over to the following link:

<http://stonemountainhamfest.com/index.php/ticket-booth>

And be sure to get your tickets early this year. Those buying their admission tickets via the PayPal link will be eligible for an Early Bird prize drawing.

There will be ham license testing on each day of the Hamfest with GARS participation.

We look forward to seeing y'all in November!

## Hallicrafters SR-400 Transceiver

### Vintage Amateur Radio

#### Hallicrafters Response to Top Level DX Radios

de Bill Shadid, W9MXQ

I am going to dwell a bit this month on a competition grade radio transceiver manufactured in the 1960's. It truly can compete in many ways, today – outstanding filter performance, some level of interference control, and that holy grail of DX radio, dual receive. I would wager, however, that you will not guess the radio's identity (before seeing the picture, below) because it has been a long time since these radios graced the operating positions of competitive operators. In 1965, Hallicrafters began building a series of Transceivers with traditional model numbers but also included names based on storms. Below you see the start of that series with the Hallicrafters SR-400 Cyclone Transceiver:



#### Hallicrafters SR-400 Cyclone 80-10 Meter Transceiver

If you go back in time and look at the SR-150 HF Transceiver article, first in the SR family in modern times, you see that Hallicrafters advanced the styling of the front panel bezel design. For reference, here is a picture of the SR-150 in the W9MXQ radio collection:



The front panel size of the SR-150 and the SR-400 were identical but complexity was increased in the later model. The addition of a very effective Noise Blanker, separate CW Filter, and Notch Filter added to the SR-400 Front Panel. Hallicrafters kept their very good system of Receiver Incremental Tuning (RIT), successfully introduced in the SR-150. The RIT feature never left the design of any Hallicrafters



transceiver after that initial design introduced on the SR-150 in 1961.

There were three versions of the SR-400 Transceiver. The first two were similar with more major changes with the third, final version. Here are some points of interest in the different models . . .

	1	2	3
Model	SR-400	SR-400	SR-400A
Model Name	Cyclone	Cyclone II	Cyclone III
SSB PEP/CW Input Power	400/360	400/360	550/320
SSB PEP/CW Output Power	200/180	200/180	275/160
Final Amplifier Tubes	2x 6HF5	2x 6HF5	2x 6KD6
Internal Final Tube Matching	No	No	Yes
Amplifier Automatic Level Control (Early Speech Processing)	Yes	Yes	Yes

The SR-400 Cyclone II was essentially an upgraded SR-400 Cyclone with all realized field issues addressed. The SR-400A Cyclone III was somewhat different. Most notable were the addition of the much more powerful 6KD6 final amplifier tubes. You will note a slight oddity of this version, however, in that the more powerful final amplifiers gave an SSB power increase of over 35% in input power while close to a 12% decrease in CW power input. It is my opinion that the 6HF5 pair had been asked too much running 360 watts input while the 6KD6 was properly rated on CW at its rated input of 320 watts.

With the release of the SR-400A Cyclone III we see the inclusion of Internal Final Tube Matching. All of us are familiar with the very inconvenient need to find electrically matched final amplifier tubes in sweep tube transmitters. The 6HF5 finals had to be a matched set from the manufacturer or distributor. In the SR-400A Cyclone III Hallicrafters introduced circuitry that allowed internal matching of the tubes. I find that even different brands of finals can be accommodated. For a while, the SR-400A Cyclone III that I have in my collection held a pair consisting of RCA and Realistic (Radio Shack) sweep tubes for the pair. They work fine. Ultimately that seemed incorrect (it really isn't incorrect in Hallicrafters' design) so I replaced the pair with a new set of RCA tubes. On the other hand, the SR-400 Cyclone II that is also in my collection uses a matched pair of RCA 6HF5 sweep tubes. Ultimately, because the need to use matched tubes changed, I pay less for finals in the more powerful SR-400A Cyclone III.

Worthy of note with the SR-400 series was Hallicrafters much touted Amplified Automatic Level Control (AALC). The "AALC" feature was touted at every opportunity. It was an early form of Speech Processing. Compared to today's AF and RF Clipping Speech Processor systems it was of little impact on signals. But, at a time when the idea of processing speech was usually the domain of broadcast radio it was unique. My feeling is that it added, at best, maybe 1 to 2 dB of compression – very little to 7 to 10 dB today. But, in those days the SR-400 and its 200 to 300-watt output power this just added a bit more sparkle to the signal. That meant just one more way to get noticed on the band.

Essentially, AALC pushed the ALC in the transmitter to force higher average signal level at what I would think would have been a bit of a sacrifice in audio quality. Did it work? I really don't know for sure – but I do know that my SR-400 Cyclone II gets excellent signal and audio reports. So, something is working!

There are interesting differences in the three models that go beyond the excellent transmitter section of the Cyclone III. The choice of the very heavy duty 6KD6 in the transmitter removed a long-standing reliance on the relatively weak 6HF5 design. (I will add that this opinion is my own – but supported by many fellow collectors from this period.) At the same time as the Cyclone III was released the Hallicrafters organization was moving Amateur Radio operations from traditional Chicago, Illinois, location to the 1963 business acquisition site of Radio Industries, Inc., in Kansas City, Kansas. Kansas

City was also the home of Hallicrafters' corporate owners, Northrup Aviation. At that time, different engineers took over the maintenance of the SR-400 design and made some changes. Were those changes cost driven, based on personal preference of different engineers, or other reasons? Today, no one knows. One does not argue over the improvement on the transmitter. But, what is known is that if you are a collector of these radios you know that there is a wide group of SR-400A Cyclone III owners that go to great pains to back convert their radios to SR-400 Cyclone II status in the lower level transmitter and receiver stages.

The original, and short lived, SR-400 Cyclone (some call this the Cyclone I) was widely known to have design issues that needed improvement. As noted earlier, the need for these changes drove the introduction of the SR-400 Cyclone II. I have owned all three, and currently have a Cyclone II and Cyclone III. Here is what I know:

1. The initial SR-400 Cyclone radios could have a rather rough sound on both SSB and CW. They were uncomfortable for listening. The final amplifier tuning could be temperamental and problematic. Neither of these traits were common with Hallicrafters which were traditionally easy on the ears and simple to tune,
2. The improved SR-400 Cyclone II radio turned out to most to be a joy to work with for both listening and transmitter tuning. This model in its later version had the proper mounting provided for an optional PA Compartment Cooling Fan. At the same time, the PS-500A-AC AC Power Supply began to come equipped with a power connector for the fan. (Later, see more information about the available power supplies, and other accessories, for the SR-400 series radios.)
3. The final SR-400A Cyclone III model incorporated the previously mentioned upgrades in the transmitter. That was very well done. But, some receiver performance issues from the first version came back. The harshness of the original SR-400 Cyclone had returned and perhaps became worse. I have a plan to accomplish the reverse engineering necessary to take the receiver sections back to SR-400 Cyclone II status. That process is well documented. At this time, my SR-400A Cyclone III is not heavily used. It should be my main SR-400 design in use at W9MXQ – and it will be in the future.

Let's look at accessories – all accessories work with all models:



Left to Right

## PS-500A-AC AC Power Supply, SR-400 Cyclone II Transceiver, HA-20 DX Adapter

Above you see the PS-500A-AC Power Supply that supplies all High Voltage, Low Voltage, and Filament Voltage to the transceiver. This power supply has the connector for the PA Compartment Cooling Fan, but this version of the transceiver has no accommodation for the fan to be added. (It is an early SR-400 Cyclone II).

The HA-20 DX Adapter deserves some credit for providing, to my knowledge, the very first opportunity for a ham radio operator to listen to two different frequencies (on the same band) at once. To the average person looking at the HA-20 it appears merely to be an External VFO. These Extremal VFO's were very popular with transceivers of the day. But there is more to that story with the HA-20 when used with the SR-400 series transceivers:



Check the OPERATION switch in the picture at the left. There are five modes for the HA-20 (for this list just below, R = Receive and T = Transmit):

- OFF** (No power to the HA-20 – SR-400 controls R & T)
- STBY** (SR-400 VFO controls R & T)
- T** (SR-400 controls R while HA-20 controls T)
- R&T** (HA-20 controls R & T)
- DUAL T** (HA-20/SR-400 control R & SR-400 controls T)

So, the SR-400 with the HA-20 connected, setting the OPERATION switch on the HA-20 to “DUAL T” allowed a roughly equal level audio on two different receive frequencies at the same time. This would allow one to listen to a DX station’s calling frequency on the HA-20 while the SR-400 would play the sending frequency desired on both receive and transmit. So, you would tune the SR-400 VFO for the location of the DX station’s listening frequency while having the HA-20 on the DX stations calling frequency.

Now, let’s look at a not so well-known difference in different versions of the SR-400:



**Hallicrafters SR-400  
Cyclone**

Note “Red Ball” Hallicrafters “H” Emblem at the top center of the Readout Bezel.



**Hallicrafters SR-400  
Cyclone II**

Looks identical to the original version except that wording to the right of the bezel shows the name of “Cyclone II.”



**Hallicrafters SR-400A  
Cyclone III**

The last Version of the SR-400, from the Kansas City plant, the Cyclone III, see the changed Hallicrafters “H” Emblem. Now a white square with a Blue Ball and White “H.”

Color differences on the above pictures are due to photography – all Hallicrafters gear matched very well in color. My old SR-150 Transceiver matches the color of the newest SR-400A almost without any shade variance. This is a tribute to the painting process used by Hallicrafters in the days before computerized paint matching. The only odd difference over the years with this design series (SR-150 through the end of the SR series) is the exact color of the front panel silk screening. There seems an almost indiscriminate change between light gray and white in the panel lettering and stripe band at the edges of the panel.



From my experience, Hallicrafters did as well, or even better, in matching paint and matching of design concepts from one model to another – including accessories that sat next to the radios. Collins was also good at the color matching – but not to the level Hallicrafters' attained. I have used the term, "Desk Presence" relating to Collins equipment in previous articles. Hallicrafters had a claim on Desk Presence as well.

If Hallicrafters had one failing during this period it must be the result of the change to aluminum outer cabinets. Aluminum paint technology, now well developed, was a bit of a black art in the 1960's when these models appeared. To this day, it is hard to find an SR-150, SR-400, or other similar period Hallicrafters that does not have paint that is chipped and showing raw aluminum. With care, this issue is repairable – but the buyer of such gear today needs to be ready for this challenge.

The only other option on these radios – and then only on the late SR-400 Cyclone II - was the PA Compartment Cooling Fan. That fan was standard equipment on the more powerful SR-400A Cyclone III and not easily retro-fit to the original Cyclone or early Cyclone II radios.

There were other versions of the basic SR-400 design from Hallicrafters. We will discuss them in the future. They include the SR-2000, SR-540, and the SR-750. Also, there were units based on the earlier platform SR-150 Transceiver. These were two tri-band (80, 40, and 20 meter) models, the SR-160 and the SR-500. In keeping with the storm theme, Hallicrafters used the names, "Hurricane" and "Tornado" for some of these radios. More will follow about those radios.

The SR-400 Cyclone II and SR-400A Cyclone III are great additions to my collection. (With the possible exception of the work needed to be done on the SR-400A Cyclone III) Both of these radios handle strong signals very well, have outstanding Noise Blankers, excellent SSB and CW i-f Filters, and effective Notch Filters. As Hallicrafters told us back in the day, ***"You should be talking on a Hallicrafters!"***

*(All Photos are shack photos from W9MXQ)*

The entire article is available on-line, see

[http://www.gars.org/newsletters/2021\\_07\\_GARZETTE.pdf](http://www.gars.org/newsletters/2021_07_GARZETTE.pdf)



The

**GARS Membership****New Members List in June**

Ed Dionne (KM6UTC)  
David May (KK4SWN)  
Lisa Fischer  
Rich Mc Mahon (KO4PVP)  
Butch Seibert (KO4RHS)

**New Members: 5****Total Members as of  
June 30, 2021  
345**

Join GARS members for our weekly breakfast  
gathering at  
7:30 AM most Saturdays  
Now at  
Cracker Barrel Restaurant  
75 Celebration Dr.  
Suwanee, GA 30024

**Birthdays in July**

Tom Abernathy (W3BBQ)  
Charles Bailey (KE4TPH)  
Kevin Biddle  
James Boyd (KB9VTM)  
Charlie Broome (WD4CCZ)  
Bill Cherepy (WB4WTN)  
Bill Cohl (WB2PIH)  
Laurel Dickenson (KM4FMP)  
Juan Dominguez  
Randy Drescher Jr (K4HS)  
Diane Gibson (N3MAD)  
Ruth Grimes  
Jon Guidry (K5JDG)  
Bob Hoffmann (K4CQO)  
Frank Hummel (KO4MRQ)  
Terry Jones (W4TL)  
Brian Jones (KD4UYP)  
Cathy Kelley (KN4DML)  
Paul Kelley (W4KLY)  
Sherwin Levinson (K4SML)  
Charlotte Matchette (KE4OSR)  
Audrey Mc Elroy (KM4BUN)  
Rob Osattin (KI4UTY)  
William (Bill) Pierce (K1LP)  
Glenda Sandidge  
Stephen Schreiman (KJ4MWF)  
Sid Weaver (N4NQ)  
Randy Woolery (KK4CRL)

**GARS MEMBERSHIP**

Your current GARS membership status is shown in the monthly newsletter e-mail towards the bottom of the message.

To become a GARS member, or to renew your GARS membership, please visit our website—<http://www.gars.org>

To make changes to your GARS membership (moved, new e-mail address, new phone number, etc.), please e-mail the Membership Committee - [membership@gars.org](mailto:membership@gars.org)

You can renew or update your Amateur Radio license information with the FCC at their website for free  
<http://wireless.fcc.gov/uls/index.htm?job=home>

To update your ARRL information, please visit their website - <http://www.arrl.org>

Membership Chair: Karen Albritton, KI4HPP

Committee Members: Dave Bruse, W4DTR

## Repeater Status

6M	Currently down
147.075	Operational in Snellville
147.255	Operational in Snellville
224.580	Operational in Grayson
442.100	Operational at Goshen Springs
442.325	Operational in Buford
444.525	Operational in Snellville

Link remote receivers being added

## Donating to GARS

Your GARS donation can be used for a certain purpose by donating to one of these funds:

- GARS SK Memorial Fund for Education (to remember and honor Silent Keys);
- GARS Scholarship Fund (Administered by the ARRL for awarding scholarships);
- GARS General Fund (any club purpose).

GARS has joined these rewards programs (a portion of every purchase you make through these merchants may be donated to GARS):

- Amazon Smiles;
- Kroger Community Rewards program.

For more information on how to sign up for these rewards programs, or to donate to GARS, visit

<http://gars.org/gars/donations-to-the-club>

## GARS on Social Media



Discord Request:

<http://gars.org/discord>



Groups.io:

<http://gars.org/groups.io>



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Join GARS on YouTube:

<http://gars.org/youtube>





## Officers

Joe Biddle, President	AD4PZ	
Jamie Burns, Vice President	KX4HA	
Bill Hawkins, Secretary	WR1TR	
Pam Meridy, Treasurer	WB1AKQ	
Kevin Scott, Program Manager	K4GTR	

## Managers and Committee Chairs

Karen Albritton, Membership Chair	KI4HPP	
Dave Bruse, VE Team Leader	W4DTR	
David Adcock, Webmaster and Field Day Chair	KA4KKF	
Ralph Pickwick, Apparel Manager and Education Chair	KJ4CNC	
Glen Wendt, TechFest Chair	W3WWT	
Bob Hoffmann, GARzette Editor	K4CQO	
Eddie Foust, Repeater Chair	WD4JEM	
Mike Weathers, WAS / DXCC QSL Card Checker and Historian	ND4V	
Chuck McCord, Net Manager	KK4TKJ	
Steve Back, Technical / RFI Advisor	WB2OGY	
Joe Biddle, Winter Field Day Chair	AD4PZ	
Kyle Albritton, Multimedia Chair	W4KDA	
Don Stewart, Elmer Manager	KW4AL	
Sandy Jackson, Health and Wellbeing	KJ4DRO	
Dave Slotter, Georgia QSO Party Chair, Workshop Leader and Public Information Officer	W3DJS	

## Directors and Trustees

John Davis, WB4QDX		Rick Cobb, N4XY	
Mike Weathers, ND4V		Bill Cherepy, WB4WTN W4GR Trustee	





The

## GARS Meeting Minutes

### Gwinnett Amateur Radio Society – GENERAL 6/8/2021

In person Field Day preparation and ice cream social meeting at Harbins Park

President Joe Biddle (AD4PZ) and Opened the meeting at 7:00pm and closed the meeting at approximately 8:00pm

**Participants:** 46

**Treasurer's Report:** provided by Pam (WB1AKQ)

**Education and GARS wear:** Ralph (KJ4CNC)

- Reports that one ARRL scholarship went to a McConnell Middle School student.
- A general Ham Cram is planned for July. They date is not yet set.
- Reviewed GARS wear procedures.

**Workshop:** Dave (W3DJS)

- The June workshop is the last on Zoom.
- July program – Power Poles
- August program – Soldering.

**Activities:** Joe (AD4PZ) and Earl (AF4FG)

- Joe requested volunteer to bring drinks to club meetings.
- Earl presented a short review of the Memorial Day Parade.

**Silent Key Presentation:** Joe (AD4PZ)

- Joe presented silent key Mike Swiderski with certificate of appreciation for his service, and presented Susan Swiderski with the ARRL memorial brick in Mike's name.

**Field Day Prep:** David (KA4KKF)

- Went over logging, assignments, and questions.

Submitted by: Bill Hawkins (WR1TR) GARS Secretary

### Workshop Minutes - June 15, 2021

Number in Attendance: 22

Workshop Topic: GARS Field Day Chairman - GARS Field Day Planning

Presenter: [David Adcock KA4KKF](#)

**Brief Summary:** David went over the basic operation of N3FJP logging software and how we are going to network the laptops for Field Day. Many questions were asked and answered.

**Door Prize Winners:** Fred KX4KL and Stephen KI4IXR - 10\$ HRO Gift Certificates.

Submitted by: Dallas KD4HNX

## Events – GARS and others

### ARRL CONTESTING INFO

From ARRL Contest Calendar  
> For more information click the links <

#### July 2021

10-11 [IARU HF World Championship](#)

#### August 2021

7-8 [222 MHz and Up Distance Contest](#)

14-15 [10 GHz & Up – Round 1](#)

15 [Rookie Roundup – RTTY](#)

#### September 2021

TBD [EME - 2.3 GHz & Up](#)

11-13 [September VHF](#)

18-19 [10 GHz & Up - Round 2](#)

#### October 2021

18-22 [School Club Roundup](#)

TBD [EME - 50 to 1296 MHz](#)

#### November 2021

6-8 [Nov. Sweepstakes - CW](#)

20-21 [Nov. Sweepstakes - Phone](#)

TBD [EME - 50 to 1296 MHz](#)

#### December 2021

3-5 [160 Meter](#)

11-12 [10 Meter](#)

19 [Rookie Roundup-CW](#)

18-19 [EME - 50 to 1296 MHz](#)

#### January 2022

1 [Straight Key Night](#)

1 [Kid's Day](#)

8-9 [RTTY Roundup](#)

15-17 [January VHF Contest](#)

#### February 2022

14-18 [School Club Roundup](#)

19-20 [International DX – CW](#)

#### March 2022

5-6 [DX Contest -- SSB](#)

#### April 2022

10 [Rookie Roundup – Phone](#)

#### May 2022

No planned contests

#### June 2021

11-13 [June VHF](#)

18 [Kid's Day](#)

25-26 [Field Day](#)

For more information:

<http://www.arrl.org/contest-calendar>

### HAMFEST CALENDAR

[Please confirm the status of a Hamfest before making plans to attend. – Ed.]

#### 07/17/2021 - Cullman Amateur Radio Club Hamfest

Location: Cullman, AL

Type: ARRL Hamfest

Sponsor: ARRL

Website: <http://cullmanarc.com/hamfest/>

#### 08/14/2021 - Fort Pierce Hamfest

Location: Fort Pierce, FL

Type: ARRL Hamfest

Sponsor: Fort Pierce Amateur Radio Club

Website: <http://FPARC.ORG>

#### 08/14/2021 - Georgia State ARES Meeting & Convention, an ARRL Specialty Convention

Location: Forsyth, GA

Type: ARRL Convention

Sponsor: Georgia ARES

#### 08/21/2021 - 08/22/2021

#### Huntsville Hamfest, ARRL Southeastern Division Convention

Location: Huntsville, AL

Type: ARRL Convention

Sponsor: Huntsville Hamfest Inc

Website: <https://hamfest.org>

#### 08/21/2021 - TarcFest XLV

Location: Tampa, FL

Type: ARRL Hamfest

Sponsor: Tampa Amateur Radio Club

Website: <http://www.hamclub.org>

#### 09/11/2021 - Gadsden Amateur Radio Club Hamfest

Location: Attalla, AL

Type: ARRL Hamfest

Sponsor: Gadsden Amateur Radio Club

#### 10/08/2021 - 10/09/2021

#### 56th Annual Melbourne Hamfest, ARRL Florida State Convention

Location: Melbourne, FL

Type: ARRL Convention

Sponsor: Platinum Coast Amateur Radio Society

Website: <http://pcars.org>

#### 10/08/2021 - 10/09/2021

#### North Okaloosa Amateur Radio Club Hamfest

Location: Crestview, FL

Type: ARRL Hamfest

Sponsor: North Okaloosa Amateur Radio Club

Website: <https://w4aaz.org/noarc-hamfest/>

For more information: <http://www.arrl.org/hamfests-and-conventions-calendar>

When searching by division, remember some states adjacent to GA are in different divisions:

Southeastern: GA, AL, FL Delta: TN Roanoke: NC, SC



The

GARS Events Calendar for 2021		GARS Recurring Calendar
<a href="#">TechFest</a> General HamCram Dog Show Fundraiser <a href="#">Georgia QSO Party</a> North metro area Fox Hunt Spring Technician HamCram <a href="#">Memorial Day Parade</a> <a href="#">ARC/KARC Hamfest</a> <a href="#">Field Day</a> Summer General HamCram Fall Technician HamCram <a href="#">JOTA</a> <a href="#">Maker Faire</a> <a href="#">Stone Mt. Hamfest</a> Holiday Party		Cancelled for 2021 TBD April 1-4 2021 April 10-11 2021 April 2021 April 2021 May 31 2021 Cancelled June 26-27 2021 TBD TBD October 16-17 2021 TBD November 6-7 2021 December 14 2021
		<ul style="list-style-type: none"> <li>2nd Tuesday of the month at 7 pm (except December): Monthly Club Meeting (<b>online until further notice</b>)</li> <li>3rd Tuesday of the month at 7 pm (except December): Monthly Workshop (<b>online until further notice</b>)</li> <li>2nd Sunday of the Month at 2 pm  <a href="#">GARS Ham Exam Session</a>            690 Airport Rd            Lawrenceville, GA 30046</li> <li>Every Monday at 7:30 pm: GARS Want, Swap, Sell, and Information Net on the GARS 147.075 MHz repeater</li> <li>Every Monday at 8:30 pm: ARES Training on the GARS 147.075 MHz repeater</li> <li>Most Saturdays at 7:30 am :            GARS Weekly Breakfast            Cracker Barrel Restaurant            75 Celebration Dr., Suwanee, GA 30024</li> </ul>
GARS CALENDAR FOR July 2021		

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
				1	2	3 Breakfast at Cracker Barrel in Suwanee 7:30 AM
4	5 7:30 – 8:00 PM GARS 2M Net	6 7:00 – 8:00 PM GARS Exec Meeting (Online)	7	8	9	10 Breakfast at Cracker Barrel in Suwanee 7:30 AM
11 GARS VE Exam Session EAA 690 Hanger	12 7:30 – 8:00 PM GARS 2M Net	13 7:00 – 8:00 PM GARS Meeting EAA 690 Hanger	14	15	16	17 Breakfast at Cracker Barrel in Suwanee 7:30 AM
18	19 7:30 – 8:00 PM GARS 2M Net	20 7:00 – 8:00 PM GARS Workshop EAA 690 Hanger	21	22	23	24 Breakfast at Cracker Barrel in Suwanee 7:30 AM
25	26 7:30 – 8:00 PM GARS 2M Net	27	28	29	30	31



## Local Ham Radio Exams & Meetings

### Local Ham Radio Exams

[Please check with each session contact for current status.—Ed.]

*GARS publishes Metro Atlanta VE exam schedules as a service and is not responsible for errors or changes. Call and confirm schedules before going. All sessions are walk-in, unless otherwise noted. Take copies of current license and certificate of completed elements with you to all sessions. Find additional sessions online at <http://www.arrl-ga.org>*

#### First Sunday, ODD Months

2 pm (Jan, Mar, May, Jul, Sep, & Nov)

VEC: WCARS

Braselton Public Utility Building

4986 Highway 53, Braselton, GA

Contact: Nat Christman K4VQ, 678-371-7103

[christmans30680@gmail.com](mailto:christmans30680@gmail.com)

#### First Sunday, EVEN Months

2 pm (Feb, Apr, Jun, Aug, Oct, Dec)

VEC: WCARS

Hall County EOC

470 Crescent Dr. Gainesville, Ga.

Contact: Perry Roper, KO4RD

(770) 536-3056

#### Second Saturday

10:00 AM

Alpharetta North Park, Adult Activities Center

13450 Cogburn Rd, Alpharetta, GA 30004

Contact: Ian Kahn, KM4IK

E-mail: [km4ik.ian@gmail.com](mailto:km4ik.ian@gmail.com)

#### Third Saturday, ODD Months

VEC: ARRL

9:30 am (Walk-ins welcome)

Stone Mountain Masonic Lodge

840 VFW Drive

Stone Mountain, GA 30083

Contact: Frank Haynes, KV4SP

Email: [fhaynes@vatmom.net](mailto:fhaynes@vatmom.net)

(678) 467-3712

#### First Sunday, EVEN Months

VEC: WCARS and W5YI

2 pm @ Barrow Co. Emerg. Serv. Bldg

66 McElroy Street

Winder, GA 30680

Contact: Mike Wolcott, W4WYI

(404) 281-6581

E-mail: [W4WYI@ARRL.net](mailto:W4WYI@ARRL.net)

#### Fourth Tuesday

ARRL VEC

7 pm @ United Way Service Center

6279 Fairburn Rd., Douglasville

Contact: Jessie Clower, KB4WFK

(770) 942-6466

#### Fourth Sunday

2:30 pm Georgia Tech

VanLeer Elec. Building

Rm. W218, 777 Atlantic Dr.

For more information go to [www.w4aql.com](http://www.w4aql.com) and click on "Test Sessions"

### GARS Ham Radio Exams

#### Second Sunday of the month

VEC: W5YI

2 pm At the EAA 690 Airport Hanger

We had a good face-to-face exam session on Sunday 6/13/2021. This was our second in-person session since March 2020. We had six people sit for testing and all six passed exams as follows:

- Three new Technician class
- One new General class (passed Tech and General exams)
- Two upgrades to General class

We also had another good VE turnout. As always, we could not hold these sessions without our dedicated VE group and they are very much appreciated. Helping with this sessions were:

- Bob Hoffmann, K4CQO
- Frank Haynes, KV4SP
- Richard Kitz, KM4SWL
- Chuck McCord, KK4TKJ (Co-CVE)
- Donna McCord, KM4FMW
- Bill Cherepy, WB4WTN
- Russell Prevost, AB4QQ
- Bill Hawkins, WR1TR

73, Don Bagby, KK4NJM (Co-CVE).

GARS VE Team Leaders

E-mail: [exams@gars.org](mailto:exams@gars.org)

GARS VE Website: <http://gars.org/exams> has location information and testing requirements.

### Local Meetings

[Please check with each club for meeting schedule and method (online, etc.) - Ed.]

#### First Tuesday

Kennehoochee ARC

Fire Station #1, Training Room

112 Haynes Street, Marietta, GA

Meeting begins at 7:00pm

Talk In 146.880(-)

#### First Thursday

Atlanta Radio Club

Georgia Red Cross HQ

1955 Monroe Dr., Atlanta, GA

Meeting is at 7:30pm

Talk In -146.820(-)

N.E. Georgia ARC

Commerce Public Library

1344 South Broad Street, Commerce, GA

Meeting is at 6:30pm

Talk In - 147.225(+), PL 123.0

#### Second Monday

Georgia Tech ARC

Room W218

Van Leer Electrical Engineering Bldg.

Georgia Tech Campus

Meeting at 7:00pm

Sawnee Amateur Radio Association

Beaver Toyota

1875 Buford Highway, Cumming, GA

Meeting at 6:30

#### Second Thursday

Alford Memorial Radio Club

Annistown Road Baptist Church

Annistown Rd & Spain Rd

Stone Mountain, GA

Dinner at 6:00pm, Meeting at 7:30pm

Talk In - 146.760(-)

#### Second Saturday

North GA QRP Club

Board Room of The Shepherd Center

2020 Peachtree Rd, NW, Atlanta, GA

at 10:00 AM

#### Third Tuesday

North Fulton Amateur Radio League

Alpharetta Recreation & Parks Dept.

Alpharetta Adult Activity Center

13450 Cogburn Road, Alpharetta, GA

meeting at 7:30pm

Talk In - 145.47(-)

For more information, go to:

<http://www.gars.org/>

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[Note: [Ham Radio Outlet](#) is open to limited walk-in traffic! Masks follow state guidelines.]

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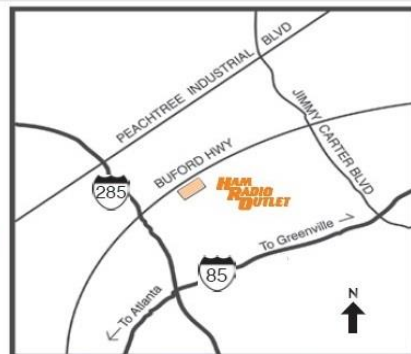
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